

31-3.4

Problem Solving Workshop

Mixed Problem Solving.

P1/2

SET UPS

and

SYSTEMS

#1.

Let x = # paperbacks y = # hard covers

$$a \quad \begin{cases} 7.95x + 22.95y = 69.75 \\ 2x + 6y = 18 \end{cases}$$

Substitution:

$$2x = -6y + 18$$

$$x = -3y + 9$$

$$7.95(-3y + 9) + 22.95y = 69.75$$

$$-23.85y + 71.55 + 22.95y = 69.75$$

$$-0.9y = -1.8$$

$$y = 2$$

$$2x + 6y = 18$$

$$2x + 6(2) = 18$$

$$2x = 6$$

$$x = 3$$

b)

you ordered 3 paperbacks and 2 hardcovers.

#2. Let a = # lbs Apples b = # lbs blueberries c = # lbs cherries

$$a + b + c = 24$$

$$a = 2(b + c)$$

$$1.40a + 0.90b + 1.10c = 30$$

3. Let x = # minutes running
 y = # minutes swimming

$$\begin{aligned}x + y &= 40 \\1.2x + 8y &= 420\end{aligned}$$

- 4) Let x = # min jogging
 y = # min walking

$$\begin{aligned}x + y &= 30 \\0.14x + 0.08y &= 3.9\end{aligned}$$

5)

- 6) Let x = price of a sofa
 y = price of a love seat
 z = price of a chair

$$\begin{aligned}x + y &= 1100 \\x + 3z &= 1600 \\x + y + z &= 1400\end{aligned}$$

DO NOT DO #7